

WHAT IS CLAIMED IS:

1. Solder spheres having a substantially uniform coating of a lubricant on the surfaces thereof.

2. The solder spheres according to claim 1 wherein the lubricant is selected
5 from the group consisting of an aliphatic hydrocarbon lubricant, a higher fatty alcohol or acid lubricant, a fatty acid amide lubricant, a metal soap lubricant, a fatty acid ester lubricant, a fluoroplastic lubricant, a silicone lubricant, and a combination thereof.

3. A method for producing solder spheres coated with a lubricant, which
10 comprises dipping solder spheres in a solution of a lubricant dissolved in an organic solvent with a concentration of from 10 ppm to 1000 ppm, removing the solder spheres from the solution, and volatilizing the solvent remaining on the solder spheres to form a substantially uniform lubricant coating on the surfaces of the solder spheres.

4. The method according to claim 3 wherein the lubricant is selected from the
15 group consisting of an aliphatic hydrocarbon lubricant, a higher fatty alcohol or acid lubricant, a fatty acid amide lubricant, a metal soap lubricant, a fatty acid ester lubricant, a fluoroplastic lubricant, a silicone lubricant, and a combination thereof.

5. The method according to claim 3 wherein the solder spheres are freshly prepared solder spheres.

6. The method according to claim 3 wherein the solder spheres are removed
20 from the lubricant solution by centrifugation.

7. A substrate for mounting an electronic component, said substrate having solder bumps formed from the solder spheres according to claim 1 on the surface

8. A process for forming solder bumps on a substrate for mounting an electronic component, which comprises placing the solder spheres according to claim 1 on the surface of the substrate and heating the substrate to cause the solder spheres placed thereon to melt and form solder bumps bonded to the substrate.

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